

USSN: 10/723,389
Docket No.: 2003B103/2
Response dated April 16, 2007
Reply to Office Action of February 16, 2007

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REMARKS

Reconsideration of the present application in view of the following remarks is respectfully requested. This Response replies to the Office Action mailed February 16, 2007.

Claims 36 – 64 and 72 are pending.

It is noted that claim 43 was not rejected. An express indication of patentability of claim 43 is requested.

35 U.S.C. §102(b) - Anticipation

Claims 36-38, 44, 47, 51-53, 56, 58-59, 62 and 65 are rejected under 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 5,204,045 to Courval et al. ("the Courval patent"). Applicants traverse this rejection because the Courval patent does not teach (a) a heater that melts the entire mass of polymer, (b) the extrusion of a molten polymer, or (c) an upstream face/plate with at least one opening for receiving molten polymer.

The Courval patent only teaches a device for ram forming a solid billet of polymer without an upstream face and with minimal heating only at the outer surface of the deformation area. Courval merely loads a solid billet and pressure forms it through a die. In fact, Courval merely shapes a thermoplastic polymer billet into an extruded shape without ever melting the polymer, save a small portion along the pressure chamber for lubrication. For example, the Courval patent states at the fourth paragraph of the Background: "The other end of the pressure chamber is closed by an axially mobile ram" See also the third paragraph of the Summary: "... and heating the deformation area, such as a die, to a temperature at least about as high as the temperature of the polymer shape." There is no indication to try to melt polymer with heating.

Claims 36, 38, 40, 42, 47, and 51-55 are rejected under 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 4,830,595 to Bentivoglio et al. ("the Bentivoglio patent"). Applicants traverse this rejection because the Bentivoglio patent does not teach a heater that heats the molten polymer above the mass temperature of the molten polymer.

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The Bentivoglio patent only teaches a heater that maintains the outermost layer *at the mass temperature of the flowing liquid polymer*, not above it. Accordingly, only very minimal, but consistent heating around the tube of film, is called for so as to maintain a consistent temperature of the entire layer of the tube. There is no teaching of a heater capable of locally heating, e.g. the surface layer, of the molten resin to a temperature much higher (30-170 degrees C) than that of the entire extruded melt mass given by the cup temperature (claim 36); or heating means whereby at least a portion of the polymer melt may be heated above Tmelt (claim 51).

Claims 36, 38-42, 44-55, 57, 59-65, and 72 are rejected under 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 4,123,207 to Dudley ("the Dudley patent"). Applicants traverse this rejection because the Dudley patent does not teach a heater that can raise the temperature of the resin locally to a temperature above Tmelt (as given by the cup test) or 30-170 degrees C above the Tmelt.

While the Dudley patent teaches a heater that may maintain molten polymer in the device with the heating system (so as to avoid plastic freeze off), there is no disclosure of a heater capable of locally heating a portion such as the surface of the molten polymer, above Tmelt of the main bulk mass of polymer so as to prevent surface melt fracture as detailed in the present specification. See the specification at paragraph [0030]. In summary, Dudley's apparatus can only heat the bulk mass but not a portion or surface area as required by the pending claims.

Accordingly, withdrawal of these rejections and allowance of the pending claims is respectfully requested.

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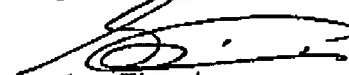
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CONCLUSION

Applicants believe that the foregoing is a full and complete response to the Office Action of record. For the foregoing reasons, Applicants submit that the present claims meet all the requirements for patentability. Accordingly, an early and favorable reconsideration of the rejection, and allowance of the pending claims are requested.

The Commissioner is hereby authorized to charge counsel's Deposit Account No. 05-1712, for any fees, including extension of time fees and excess claim fees, required to make this response timely and acceptable to the Office.

Respectfully submitted,



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